

binder removal operation, the step of disposing being performed during at least one of the sintering operation and the binder removal operation; and

spraying a catalytically active substance onto at least one of: i) the porous setter plates, and ii) at least one porous separating layer of the porous setter plates, the catalytically active substance converting the gaseous hydrocarbons.

46. (New) The method according to claim 45, wherein the catalytically active substance is a metallic-salt solution.

47. (New) The method according to claim 45, wherein the catalytically active substance converts the gaseous hydrocarbon to a relatively lower-molecular weight hydrocarbon.

48. (New) The method according to claim 45, wherein the catalytically active substance includes at least one of platinum, palladium and rhodium.

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### REMARKS

#### **I. Introduction**

Claims 38-48 have been added. No new matter has been added. Claims 19-48 are now pending in the present application. In view of the following remarks, it is respectfully submitted that all of the presently pending claims are allowable and reconsideration is respectfully requested.

Applicants thank the Examiner for considering the previously filed Information Disclosure Statement, PTO-1449 paper and cited references.

Applicants note with appreciation the acknowledgment of the claim for foreign priority and the indication that all certified copies of the priority documents have been received.

**II. Rejection of Claims 19-24 and 33-37 Under 35 U.S.C. § 102(b), or in the Alternative Under 35 U.S.C. § 103(a)**

Claims 19-24 and 33-37 were rejected under 35 U.S.C. § 102(b) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over United States Patent No. 4,971,731 ("the Herron et al. reference"). It is respectfully requested that the Herron et al. reference does not anticipate or render obvious claims 19-24 and 33-37, for at least the following reasons.

Claim 19 is a method claim which recites the following:

. . . introducing a catalytically active substance into at least one of (i) pores of at least one of the porous setter plates and (ii) pores of at least one porous separating layer of the porous setter plates, the catalytically active substance converting the gaseous, organic, bake-out product.

Claims 20-24, 36 and 37 depend from claim 19. Claim 33 is directed to a device, and recites similar subject matter. Claim 34 depends from claim 33.

As regards the "catalytically active substance," the Examiner apparently relies on the reducible metal oxide (e.g.,  $\text{Cu}_2\text{O}$  or  $\text{CuO}$ ) described in the Herron et al. reference. Respectfully, the reducible metal oxide described in the Herron et al. reference does not convert a gaseous **organic** bake-out product, as recited in the claims of the present application. As described in the Herron et al., the  $\text{Cu}_2\text{O}$  or  $\text{CuO}$  reacts with **hydrogen**. In particular, the Herron et al. reference describes that the  $\text{Cu}_2\text{O}$  or  $\text{CuO}$  is used to maintain an "ideal"  $\text{H}_2/\text{H}_2\text{O}$  ratio directly at the surface of the substrate. See, e.g., Herron et al. reference, col. 5, lines 40-52. Thus, the Herron et al. reference does not describe (or suggest) converting a gaseous **organic** bake-out product.

Moreover, the Herron et al. reference also does not disclose, or even suggest, introducing a catalytically active substance into at least one of **pores** of at least one of the porous setter plates and pores of at least one of the porous separating layers of the porous setter plates as in claims 19 and 33. In fact, the Examiner does not specifically allege that this feature is described in the Herron et al. reference, the Examiner only states that the reference purportedly describes a catalytically active substance being included in a setter plate, such as "within the setter," as shown in Fig 5. Figure 5 of Herron et al. illustrates an embodiment of a setter tile including "refractory oxide 230 having the reducible metal oxide 232 dispersed therein." Col. 7, lines 34-38. Figure 5 depicts these features, showing that reducible metal oxide 232 is not within

the pores, which are labeled 234. Col. 5, line 38. Therefore, the Herron et al. reference does not disclose, or even suggest, the step of introducing a catalytically active substance into at least one of pores of at least one of the porous setter plates and pores of at least one of the porous separating layers of the porous setter plates as in claims 19 and 33.

The features of the pending claims are also not obvious over the Herron et al. reference; in fact, the Herron et al. reference addresses a different problem than that addressed by the present invention. In particular, the Herron et al. reference appears to address the consumption of excess hydrogen and generation of more steam. According to the Herron et al. reference, an "ideal"  $H_2/H_2O$  ratio is maintained directly at the surface of the substrate.

The present invention, however, converts escaping bake-out products into, e.g., less combustible or incombustible gases. For example, escaping gaseous high molecular weight hydro-carbons are converted to lower molecular weight hydro-carbons using a catalytically active substance, for example, sprayed onto a porous setter plate or separating layer.

It is therefore respectfully submitted that the Herron et al. reference does not anticipate or render obvious claims 19 and 33. As for claims 20-24, which depend from claim 19, and claim 34-37, which depend from claim 33, it is respectfully submitted that the Herron et al. reference does not anticipate or render obvious these claims for at least the reasons given above in support of the patentability of claims 19 and 33.

### **III. Rejection of Claims 25-32 Under 35 U.S.C. § 103(a)**

Claims 25-32 were rejected under 35 U.S.C. § 103(a) as unpatentable over the Herron et al. reference in view of United States Patent No. 4,474,731 ("the Brownlow et al. reference"). It is respectfully requested that the combination of the Herron et al. reference and the Brownlow et al. reference does not render obvious claims 25-32 for the following reasons.

As an initial matter, claims 25-32 depend from claim 19. Accordingly, the arguments presented above in connection with the Herron et al. reference apply equally to claims 25-32. Moreover, as regards the Brownlow et al. reference, it is respectfully submitted that the Brownlow et al. reference does not cure the deficiencies of the Herron et al. reference. Moreover, there is no suggestion in the prior art to combine the Brownlow et al. reference with the Herron et al. reference, at least in the manner suggested by the Examiner.

In view of the foregoing, it is respectfully submitted that the Herron et al. reference and the Brownlow et al. reference do not render any of claims 25-32 obvious.

Withdrawal of the rejection of claims 25-32 under 35 U.S.C. § 103 as being obvious over the Herron et al. reference in view of the Brownlow et al. reference, is requested.

V. **Conclusion**

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully Submitted,

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Dated: 9/22/03

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